

Remarks/Arguments:

I. Status

The Office Action dated March 23, 2007 (the "Office Action") has been carefully reviewed. In the Office Action:

- A. Claim 33 was objected to;
- B. Claim 28 was rejected under 35 U.S.C. §112 for improper antecedent basis;
- C. Claims 19-37 were rejected as being anticipated under 35 U.S.C. §102(b) by WO 2001/22905 to Bahler (hereinafter "Bahler")¹;
- D. Claims 27-37 were rejected as being anticipated under 35 U.S.C. §102(b) by German Patent No. DE 101 23 517 C1 to Glien et al. (hereinafter "Glien");
- E. Claims 32-33 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,228,120 to Leonard et al. (hereinafter "Leonard");
- F. Claims 19-26 were rejected as being obvious under 35 U.S.C. §103(b) over Leonard in view of WO 2003/096939 A1 to Horber (hereinafter "Horber") and Bahler; and
- G. Claims 27-31 and 34-37 were rejected as being obvious under 35 U.S.C. §103(b) over Leonard in view of Horber and Glien.

Claims 19, 27-28, 32 and 33 have been amended. Accordingly, claims 19-37 are pending in this application. Reconsideration of this application, as amended, is respectfully requested.

II. Claims 28 and 33

Claim 28 was rejected under 35 U.S.C. §112 for improper antecedent basis and Claim 33 was objected to for potentially being unclear. Claim 28 has been amended to provide proper antecedent basis and claim 33 has been amended to clarify the limitation in the manner suggested by the Examiner. Accordingly, the applicants respectfully submit that the rejection of claim 28 and the objection to claim 33 have been overcome.

III. Claims 19-37 are Patentable over Bahler

Claims 19-37 were rejected as being anticipated by Bahler. Claims 19, 27 and 32 have been amended to more clearly describe the claimed invention. Accordingly, the claims are patentable over Bahler for the reasons set forth below.

Discussion Re: Patentability of Claim 19

1. Claim 19

Claim 19, as amended, recites:

A joint prosthesis comprising:
a stem configured to be implanted within a bone, the stem including a first coupler bore therein with an interior wall portion which, when viewed in cross-section, extends in a line within a first bore portion from a proximal surface portion of the stem to a ledge which defines a portion of the bore narrower than the first bore portion, wherein the ledge is located between the first bore portion and a second bore portion;
a joint component having a bearing surface and defining a second coupler bore;
a mounting element having (i) a proximal portion received within the second coupler bore of the joint component in a friction fit manner, and (ii) a spherical articulating portion located within the first bore portion; and
a fastener extending from within the spherical articulating portion to within the second bore portion and configured to force the spherical articulating portion outwardly from an axis of the first coupling bore and against the interior wall portion.

¹ The Examiner has identified U.S. Patent No. 6,749,637 as an English translation of Bahler. (Office Action at page 3). Accordingly, the citations herein to Bahler will be to the U.S. Patent No. 6,749,637.

Claim 19 thus clarifies that the fastener forces the *spherical* articulating portion outwardly from an axis of the first coupler bore.

2. Bahler Does Not Disclose a Spherical Articulating Portion

The Examiner relied upon the “articulating face 43” of Bahler for disclosing the claimed spherical articulating portion of the mounting element. (Office Action at page 4). Respectfully, Bahler has been mischaracterized.

Specifically, at column 8, lines 28-30, Bahler describes the articulation face 43 as a “*cylindrical* articulation face 43.” (Emphasis added). Additionally, FIG. 5 clearly shows that the articulation face 43 is cylindrical. A *cylindrical* articulating face is not the same as a *spherical* articulation face.

Therefore, because a cylindrical articulating face is not the same as a spherical articulation face, the *cylindrical* articulation face 43 of Bahler is not a *spherical* articulating portion as recited in claim 19. Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Bahler does not disclose each and every element of Applicants’ claim 19, Bahler does not anticipate claim 19.

3. Bahler Does Not Disclose Moving an Articulating Portion Outwardly

Moreover, the Examiner relied upon the screw 53 of Bahler for disclosing the claimed fastener. (Office Action at page 4). Claim 19 has been amended to more clearly identify the recited fastener.

Specifically, claim 19 as amended recites a fastener that forces an articulating portion outwardly, away from an axis of the first coupler bore. The screw 53 is not configured to force an articulating portion outwardly, away from an axis of a first coupler bore. Specifically, at column 8, lines 56-58, Bahler states that the “radius of the sphere of the shaft head is equivalent to the radius of the spherical bottom 49.” Thus, when the screw 53 is tightened against the directional piece 41, the resultant force is *axial*. The screw 53 does not force the directional piece 41 “outwardly.”

Therefore, because forcing a component to move *axially* is not the same as forcing a component to move *outwardly* away from the axis, the screw 53 is not the same as the fastener recited in claim 19. Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Bahler does not disclose each and every element of Applicants’ claim 19, Bahler does not anticipate claim 19.

4. Conclusion

For any or all of the foregoing reasons, it is respectfully submitted that the rejection of claim 19 as being anticipated by Bahler has been successfully traversed, and the Applicants respectfully submit that the rejection of claim 19 under 35 U.S.C. § 102 should be withdrawn.

Discussion Re: Patentability of Claims 20-26

All of claims 20-26 depend, either directly or by way of one or more intermediate claims, from claim 19 and include all of the limitations of claim 19. Therefore, for at

least the reasons set forth above with respect to claim 19, claims 20-26 are patentable over Bahler.

Discussion Re: Patentability of Claim 27

1. Claim 27

Claim 27, as amended, recites:

A prosthesis comprising:
a stem configured to be implanted within a bone, the stem defining a first coupler bore;
a joint component having a bearing surface and defining a second coupler bore; and
a mounting element having (i) a proximal portion received within the second coupler bore of the joint component in a friction fit manner, and (ii) a spherical articulating portion received within the first coupler bore of the stem,
wherein the stem includes a proximal surface that defines a coupler opening through which the mounting element extends, and the stem, when viewed in a cross-section, further includes an interior wall portion located within the first coupler bore that extends inwardly toward a longitudinal axis of the first coupler bore from the proximal surface in a straight line, and
wherein the spherical articulating portion of the mounting element touches the interior wall portion at a point along the straight line.

Claim 27 thus requires a *spherical* articulating portion to touch a non-spherical portion of a wall.

2. Bahler Does Not Disclose a Spherical Articulating Portion

The Examiner relied upon the “articulating face 43” of Bahler for disclosing the claimed spherical articulating portion of the mounting element. (Office Action at page 4). Claim 27 recites a “spherical articulating portion.” Therefore, for the same reason discussed above with respect to the spherical articulating portion recited in claim 19, claim 27 is patentable over Bahler.

3. Bahler Does Not Disclose Spherical on Non-Spherical Contact

Moreover, the Examiner has argued that either the piece 33 and the articulation face 25 or the articulation face 43 and the recess 35 disclose the “spherical articulating portion of the mounting element touches the interior wall portion” of claim 27. (Office Action at page 5). Respectfully, Bahler has been mischaracterized.

Specifically, Bahler states that the directional piece 41 “has a cylindrical articulation face 43, which is curved to complement the cylindrical surface 35 of the recess.” (Bahler at column 8, lines 28-30). Additionally, the “rotating piece 33 is a conical disk, or truncated cone, with an inclination of the conical jacket 34 that corresponds to the inclination of the conical jacket of the articulation face 25.” (Bahler at column 8, lines 19-22). Thus, the portions of the components of Bahler identified by the Examiner which are in contact are complementary to one another.

In contrast, claim 27 requires the spherical articulating portion of the mounting element to touch the interior wall portion. As recited in the claim, the “interior wall portion” “extends inwardly toward a longitudinal axis of the first coupler bore from the proximal surface in a straight line.” Thus, the interior wall portion *is not curved the same* as the spherical articulating portion. Two contacting surfaces which are both conical or both cylindrical are not the same as two contacting surfaces one of which is spherical and the other of which is not.

Therefore, because the contacting areas of the piece 33 with the articulation face 25 and the articulation face 43 with the recess 35 are similarly shaped, they do not disclose the recited structure of a spherical surface contacting a non-spherical surface as the fastener recited in claim 27. Anticipation under 35 U.S.C. § 102 is proper only if the

prior art reference discloses each and every element of the claim. Since Bahler does not disclose each and every element of Applicants' claim 27, Bahler does not anticipate claim 27.

4. Conclusion

For any or all of the foregoing reasons, it is respectfully submitted that the rejection of claim 27 as being anticipated by Bahler has been successfully traversed, and the Applicants respectfully submit that the rejection of claim 27 under 35 U.S.C. § 102 should be withdrawn.

Discussion Re: Patentability of Claims 28-31

All of claims 28-31 depend, either directly or by way of one or more intermediate claims, from claim 27 and include all of the limitations of claim 27. Therefore, for at least the reasons set forth above with respect to claim 27, claims 28-31 are patentable over Bahler.

Discussion Re: Patentability of Claim 32

1. Claim 32

Claim 32, as amended, recites:

A prosthesis comprising:
a stem configured to be implanted within a bone, the stem including an internal bore;
a joint component having a bearing surface;
a mounting element configured for engagement with the joint component and having a spherical articulating portion received within the internal bore of the stem, the spherical articulating portion configured for press-fit engagement with the internal bore such that the spherical articulating portion touches the internal bore around substantially an entire perimeter of the bore defined by the intersection of a plane with the internal bore; and

a fastener having a first portion coupled with the mounting element and a second portion coupled with the stem.

Claim 32 thus requires a *spherical* articulating portion of a mounting element to be fastened to the stem by friction after the parts are pushed together.

2. Bahler Does Not Disclose a Spherical Articulating Portion

The Examiner relied upon the “articulating face 43” of Bahler for disclosing the claimed spherical articulating portion of the mounting element. (Office Action at page 4). Claim 32 recites a “spherical articulating portion.” Therefore, for the same reason discussed above with respect to the spherical articulating portion recited in claim 19, claim 32 is patentable over Bahler.

3. Bahler Does Not Disclose a Spherical Press-fit Component

Moreover, the Examiner has argued that either the piece 33 and the articulation face 25 or the articulation face 43 and the recess 35 disclose the “spherical articulating portion” as recited in claim 32. (Office Action at page 5). Respectfully, Bahler has been mischaracterized.

Specifically, Bahler states that the directional piece 41 “has a cylindrical articulation face 43, which is curved to complement the cylindrical surface 35 of the recess.” (Bahler at column 8, lines 28-30). A partial cylinder on another partial cylinder does not generally result in a press-fit. Moreover, there is no indication that these complementary surfaces have an interference fit. Therefore, the cylindrical articulation face 43 and the cylindrical surface 35 do not disclose a press-fit as recited in claim 32.

The “rotating piece 33 is a conical disk, or truncated cone, with an inclination of the conical jacket 34 that corresponds to the inclination of the conical jacket of the articulation face 25.” (Bahler at column 8, lines 19-22). Bahler notes, however, that “[i]f the screw 53 is not tightened firmly, then on the one hand the rotating piece 33 is rotatable about the first axis 27 in the shaft part. Therefore, the fit between the rotating piece 33 and the conical jacket 34 is not an interference fit.

Therefore, because the components identified by the Examiner are not fastened to each other by friction when pressed together, Bahler does not disclose the mounting element recited in claim 32. Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Bahler does not disclose each and every element of Applicants’ claim 32, Bahler does not anticipate claim 32.

4. Conclusion

For any or all of the foregoing reasons, it is respectfully submitted that the rejection of claim 32 as being anticipated by Bahler has been successfully traversed, and the Applicants respectfully submit that the rejection of claim 32 under 35 U.S.C. § 102 should be withdrawn.

Discussion Re: Patentability of Claims 33-37

All of claims 33-37 depend, either directly or by way of one or more intermediate claims, from claim 32 and include all of the limitations of claim 32. Therefore, for at

least the reasons set forth above with respect to claim 32, claims 33-37 are patentable over Bahler.

IV. Claims 27-37 are Patentable over Glien

Claims 27-37 were rejected as being anticipated by Glien. Claims 27 and 32 have been amended to more clearly describe the claimed invention. Accordingly, the claims are patentable over Glien for the reasons set forth below.

1. Claim 27

Claim 27, as amended, recites:

A prosthesis comprising:
a stem configured to be implanted within a bone, the stem defining a first coupler bore;
a joint component having a bearing surface and defining a second coupler bore; and
a mounting element having (i) a proximal portion received within the second coupler bore of the joint component in a friction fit manner, and (ii) a spherical articulating portion received within the first coupler bore of the stem,
wherein the stem includes a proximal surface that defines a coupler opening through which the mounting element extends, and the stem, when viewed in a cross-section, further includes an interior wall portion located within the first coupler bore that extends inwardly toward a longitudinal axis of the first coupler bore from the proximal surface in a straight line, and
wherein the spherical articulating portion of the mounting element touches the interior wall portion at a point along the straight line.

Claim 27 thus requires a wall portion to extend from the proximal surface of the stem inwardly toward a longitudinal axis of the bore.

2. Glien Does Not Disclose an Inwardly Extending Wall Portion

The Examiner relied upon the outwardly extending portion 16 of the device of Glien for disclosing the claimed wall. (Office Action at page 7). Claim 27 has been amended to more distinctly identify the claimed invention.

Specifically, claim 27 has been amended to clarify that the wall portion extends from the proximal surface in an inwardly direction, toward the longitudinal axis of the bore. Assuming *arguendo* that the tapered portion 15 of the device of Glien is a proximal surface, the outwardly extending portion 16 extends from the proximal surface in an outwardly direction, *away from* the longitudinal axis of the bore. A wall portion that extends *away* from the longitudinal axis of a bore is not the same as a wall portion that extends *toward* the longitudinal axis of a bore.

Therefore, because the outwardly extending portion 16 of Glien extends *away* from the longitudinal axis of a bore, the outwardly extending portion 16 of Glien does not disclose a wall portion that extends from the proximal surface of the stem inwardly toward a longitudinal axis of the bore as recited in claim 27. Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Glien does not disclose each and every element of Applicants' claim 27, Glien does not anticipate claim 27.

3. Conclusion

For the foregoing reasons, it is respectfully submitted that the rejection of claim 27 as being anticipated by Glien has been successfully traversed, and the Applicants respectfully submit that the rejection of claim 27 under 35 U.S.C. § 102 should be withdrawn.

Discussion Re: Patentability of Claims 28-31

All of claims 28-31 depend, either directly or by way of one or more intermediate claims, from claim 27 and include all of the limitations of claim 27. Therefore, for at least the reasons set forth above with respect to claim 27, claims 28-31 are patentable over Glien.

Discussion Re: Patentability of Claim 32

1. Claim 32

Claim 32, as amended, recites:

A prosthesis comprising:
a stem configured to be implanted within a bone, the stem including an internal bore;
a joint component having a bearing surface;
a mounting element configured for engagement with the joint component and having a spherical articulating portion received within the internal bore of the stem, the spherical articulating portion configured for press-fit engagement with the internal bore such that the spherical articulating portion touches the internal bore around substantially an entire perimeter of the bore defined by the intersection of a plane with the internal bore; and
a fastener having a first portion coupled with the spherical articulating portion of the mounting element and a second portion coupled with the stem.

Claim 32 thus requires one portion of a fastener to couple with the spherical articulating portion of the mounting element and a second portion to couple with the stem.

2. Glien Does Not Disclose a Two Fastener Portions

The Examiner relied upon the “screw 30” of Glien for disclosing the claimed fastener. (Office Action at page 8). Claim 32 has been amended to clarify that one portion of the screw interacts with the spherical portion of the mounting element while a different portion of the fastener interacts with the stem. In contrast, to the extent a

portion of the screw 32 of Glien couples with a spherical articulation portion of a mounting element, the *same* portion of the screw 30 of Glien couples with the stem of Glien.

Because Glien discloses, at most, that a single portion of a screw couples both with a spherical articulation portion of a mounting element and a stem, Glien does not disclose a fastener with one portion that couples with a spherical articulating portion of a mounting element and a second portion that couples with the stem.

3. Conclusion

For the foregoing reasons, it is respectfully submitted that the rejection of claim 32 as being anticipated by Glien has been successfully overcome, and the Applicants respectfully submit that the rejection of claim 32 under 35 U.S.C. § 102 should be withdrawn.

Discussion Re: Patentability of Claims 33-37

All of claims 33-37 depend, either directly or by way of one or more intermediate claims, from claim 32 and include all of the limitations of claim 32. Therefore, for at least the reasons set forth above with respect to claim 32, claims 33-37 are patentable over Glien.

V. Claims 32-33 are Patentable over Leonard

Claims 32-33 were rejected as being anticipated by Leonard. Claims 32 and 33 are patentable over Leonard for the reasons set forth below.

Discussion Re: Patentability of Claim 32

1. Claim 32

Claim 32, as amended, recites:

A prosthesis comprising:
a stem configured to be implanted within a bone, the stem including an internal bore;
a joint component having a bearing surface;
a mounting element configured for engagement with the joint component and having a spherical articulating portion received within the internal bore of the stem, the spherical articulating portion configured for press-fit engagement with the internal bore such that the spherical articulating portion touches the internal bore around substantially an entire perimeter of the bore defined by the intersection of a plane with the internal bore; and
a fastener having a first portion coupled with the mounting element and a second portion coupled with the stem.

Claim 32 thus requires a spherical articulating portion of a mounting element to be fastened to the stem by friction after the parts are pushed together.

2. Leonard Does Not Disclose a Spherical Press-fit Component

The Examiner has stated that Leonard discloses a spherical articulating portion of a mounting element that is fastened to the stem by friction after the parts are pushed together. (Office Action at page 8). Respectfully, Leonard has been mischaracterized.

Specifically, Leonard states that the “humeral plate 9 first comprises a hollow hemispherical ball joint 10 designed to fit the hemispherical bearing formed by the cavity 7 in the metaphysical section 3 of the prosthesis stem 1 and having for that purpose an external wall 10a of the same radius as said cavity 7, plus tolerance.” (Leonard at column 6, lines 25-29). There is, however, no disclosure to the effect that the ball joint 10 frictionally engages the metaphysical section 3 of the prosthesis stem 1. Rather, Leonard states that “humeral rod and humeral plate have hemispherical contact bearings and are

designed and arranged so that the ball joints of the humeral plate and the locking unit can oscillate in all directions around a point 0 representing the center of the hemispherical cavity in the humeral rod.” (Leonard at column 3, lines 16-20). A fit which allows oscillation is not the same as a fit whereby one component is frictionally held by another component.

Therefore, because the components identified by the Examiner are not fastened to each other by friction when pressed together, Leonard does not disclose the mounting element recited in claim 32. Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Leonard does not disclose each and every element of Applicants’ claim 32, Leonard does not anticipate claim 32.

3. Conclusion

For the foregoing reasons, it is respectfully submitted that the rejection of claim 32 as being anticipated by Leonard has been successfully traversed, and the Applicants respectfully submit that the rejection of claim 32 under 35 U.S.C. § 102 should be withdrawn.

Discussion Re: Patentability of Claim 33

Claim 33 depends directly from claim 32 and includes all of the limitations of claim 32. Therefore, for at least the reasons set forth above with respect to claim 32, claim 33 is patentable over Leonard.

VI. Claims 19-26 are Patentable

Claims 19-26 were rejected as being obvious over Leonard in view of Horber and Bahler. Claim 19 has been amended to more clearly describe the claimed invention. Accordingly, the claims are patentable over the cited art for the reasons set forth below.

Discussion Re: Patentability of Claim 19

1. Claim 19

Claim 19, as amended, recites:

A joint prosthesis comprising:
a stem configured to be implanted within a bone, the stem including a first coupler bore therein with an interior wall portion which, when viewed in cross-section, extends in a line within a first bore portion from a proximal surface portion of the stem to a ledge which defines a portion of the bore narrower than the first bore portion, wherein the ledge is located between the first bore portion and a second bore portion;
a joint component having a bearing surface and defining a second coupler bore;
a mounting element having (i) a proximal portion received within the second coupler bore of the joint component in a friction fit manner, and (ii) a spherical articulating portion located within the first bore portion; and
a fastener extending from within the spherical articulating portion to within the second bore portion and configured to force the spherical articulating portion outwardly from an axis of the first coupling bore and against the interior wall portion.

Claim 19 thus clarifies that the fastener forces the spherical articulating portion *outwardly* from an axis of the first coupler bore.

2. Leonard Does Not Disclose Moving an Articulating Portion Outwardly

The Examiner has relied primarily upon Leonard with further reference to Bahler and Horber for reciting a ledge. (Office Action at page 10). Claim 19 has been amended to more clearly identify the recited fastener.

Specifically, the Examiner has cited to the locking unit 16 of Leonard for disclosing the fastener of claim 19. (Office Action at page 10). Claim 19 as amended

recites a fastener that forces an articulating portion outwardly, away from an axis of the first coupler bore. The locking unit 16 of Leonard is not configured in such a manner. Specifically, at column 6, lines 24-28, Leonard describes a “hollow hemispherical ball joint 10 designed to fit the hemispherical bearing formed by the cavity 7 in the metaphysical section 3 of the prosthesis stem 1 and having for that purpose an external wall 10a of the same radius as said cavity 7, plus tolerance.” Additionally, the “rod 17 is also topped by a hemispherical ball joint 18 designed to fit the hemispherical bearing formed by the internal face 10b of the ball joint 10 of the humeral plate 9, and for that purpose having an external wall in contact with said hemispherical bearing that has the same radius as said bearing, plus tolerance.” (Leonard at column 6, lines 60-65).

Thus, with reference to FIG. 3, as the locking unit 16 is threaded into the stem 1, the ball joint 10 is locked because the ball joint about the bore 11 is clamped between the locking unit 16 and the stem 1. Compressing a ball joint axially is not the same as forcing a spherical articulating portion *outwardly* from an axis of the first coupler bore

Therefore, even if Leonard is modified in the manner proposed by the Examiner, the modification fails to arrive at the invention recited in claim 19. Accordingly, under MPEP § 2143.03, claim 19 is patentable over the prior art.

3. There is No Motivation for the Proposed Modification

The Examiner has proposed that the device of Leonard be modified “in order to allow the articulating surface of a mounting element/articulation body to rotate about an axis, while preventing a rolling movement of the articulation body in the articulation

cavity.” The proposed modification renders Leonard unsatisfactory for its intended purpose.

Specifically, the stated object of Leonard is to “provide a shoulder prosthesis that permits continuous independent adjustments of the medial offset and the posterior offset”. (Leonard at column 2, lines 30-32). To this end, Leonard provides a device which allows four elementary rotations. (Leonard at column 8, line 61 through column 9, line 14). Thus, Leonard *provides* the various rotations to achieve continuous independent adjustments of the medial offset and the posterior offset. The proposed modification would eliminate the ability of the device of Leonard to provide all of the rotations. Therefore, the device would no longer provide continuous independent adjustments of the medial offset and the posterior offset.

If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984). Accordingly, there is no suggestion or motivation for the proposed modification of Leonard as proposed by the Examiner. Because there is no suggestion or motivation for the proposed combination, a *prima facie* case of obviousness has not been made and the rejection of claim 19 under 35 U.S.C. § 103(a) should be withdrawn.

4. Conclusion

For any or all of the foregoing reasons, it is respectfully submitted that the rejection of claim 19 as being obvious over Leonard in view of Horber and Bahler has

been successfully traversed, and the Applicants respectfully submit that the rejection of claim 19 under 35 U.S.C. § 103 should be withdrawn.

Discussion Re: Patentability of Claims 20-26

Claims 20-26 were rejected based upon the same combination discussed above with respect to claim 19. All of claims 20-26 depend, either directly or by way of one or more intermediate claims, from claim 19 and include all of the limitations of claim 19. Therefore, for at least the reasons set forth above with respect to claim 19, claims 20-26 are patentable.

VII. Claims 27-31 and 34-37 are Patentable

Claims 27-31 and 34-37 were rejected as being obvious over Leonard in view of Horber and Glien. The claims are patentable over the cited art for the reasons set forth below.

Discussion Re: Patentability of Claim 27

1. Claim 27

Claim 27, as amended, recites:

A prosthesis comprising:
a stem configured to be implanted within a bone, the stem defining a first coupler bore;
a joint component having a bearing surface and defining a second coupler bore; and
a mounting element having (i) a proximal portion received within the second coupler bore of the joint component in a friction fit manner, and (ii) a spherical articulating portion received within the first coupler bore of the stem,
wherein the stem includes a proximal surface that defines a coupler opening through which the mounting element extends, and the stem, when viewed in a cross-section, further includes an interior wall portion located within the first coupler bore that extends inwardly toward a longitudinal axis of the first coupler bore from the proximal surface in a straight line, and
wherein the spherical articulating portion of the mounting element touches the interior wall portion at a point along the straight line.

Claim 27 thus requires a spherical articulating portion of a mounting element to be fastened to the stem by friction after the parts are pushed together. Additionally, the contact occurs along an interior wall portion that extends inwardly toward a longitudinal axis of the first coupler bore from a proximal surface of the stem in a straight line

2. Leonard Does Not Disclose a Spherical Press-fit Component

The Examiner has rejected claim 27 primarily based upon Leonard with further reference to Horber and Glien for the interior wall portion. (Office Action at page 10). The proposed modification fails to arrive at the invention of claim 27.

Specifically, claim 27 recites that the spherical articulating portion of a mounting element is friction fit to the stem. The Examiner has cited to the tapered swivel 12 + hemispherical ball joint 10 of Leonard (the "humeral plate 9) as disclosing this element. (Office Action at pages 8 and 10). When the humeral plate 9 of Leonard is inserted into the cavity 7, four elementary rotations are allowed. (Leonard at column 8, line 61 through column 9, line 14). There is, however, no disclosure in Leonard that the humeral plate 9 is frictionally held within the cavity 7.

Therefore, Leonard does not describe a spherical articulating portion of a mounting element that is fastened to the stem by friction after the parts are pushed together. Accordingly, even if Leonard is modified in the manner proposed by the Examiner, the modification fails to arrive at the invention recited in claim 27. Accordingly, under MPEP § 2143.03, claim 27 is patentable over the prior art.

3. Glien Has Been Mischaracterized

Moreover, the shortcomings of Glien with respect to the recited interior wall portion were discussed above with respect to the rejection of claims 27-37. Therefore, as discussed above, Glien does not disclose an interior wall portion as recited in claim 27.

4. There is No Motivation for the Proposed Modification

The Examiner has proposed that the device of Leonard be modified “in order to permit movement of the articulating surface of a mounting element/articulation body in multiple degrees of freedom, while preventing a rolling movement of the articulation body in the articulation cavity.” The proposed modification renders Leonard unsatisfactory for its intended purpose.

Specifically, to the extent the Applicants understand the argument, this is the same motivation discussed above regarding to the motivation to modify Leonard with respect to claim 19. Therefore, for the same reasons discussed above, there is no suggestion or motivation for the proposed modification of Leonard as proposed by the Examiner. Because there is no suggestion or motivation for the proposed combination, a *prima facie* case of obviousness has not been made and the rejection of claim 19 under 35 U.S.C. § 103(a) should be withdrawn.

In the event the Examiner intended the motivation to be different from the motivation discussed above, the Applicants respectfully request a clarification of the motivation. Specifically, “rolling motion” would appear to be one of the “multiple degrees of freedom.” Thus, permitting multiple degrees of freedom appears to contradict “preventing rolling.”

5. Conclusion

For any or all of the foregoing reasons, it is respectfully submitted that the rejection of claim 27 as being obvious over Leonard in view of Horber and Glien has been successfully traversed, and the Applicants respectfully submit that the rejection of claim 27 under 35 U.S.C. § 103 should be withdrawn.

Discussion Re: Patentability of Claims 27-31

Claims 28-31 were rejected based upon the same combination discussed above with respect to claim 27. Each of claims 28-31 depend, either directly or by way of one or more intermediate claims, from claim 27 and include all of the limitations of claim 27. Therefore, for at least the reasons set forth above with respect to claim 27, claims 28-31 are patentable.

Discussion Re: Patentability of Claims 34-37

Claims 34-37 were rejected based upon the same combination discussed above with respect to claim 27. Therefore, for the same reason set forth above with respect to claim 27, there is no motivation for the proposed modification.

Moreover, each of claims 34-37 depend, either directly or by way of one or more intermediate claims, from claim 32 and include all of the limitations of claim 32. Leonard fails to disclose each of the limitations of claim 32 as discussed above. Therefore, even if Leonard is modified in the manner suggested by the Examiner, such modification fails to arrive at the invention of claims 34-37.

Therefore, for at least the reasons set forth above, claims 34-37 are patentable.

VIII. Conclusion

Applicants respectfully request entry of the amendments and favorable consideration of the application.

A prompt and favorable action on the merits is requested.

Respectfully Submitted,
Maginot, Moore & Beck LLP

/James D. Wood/

June 25, 2007

James D. Wood
Attorney for Applicants
Attorney Registration No. 43,285

Maginot, Moore & Beck LLP
Chase Tower
111 Monument Circle, Suite 3250
Indianapolis, IN 46204-5115
Telephone: (317) 638-2922